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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
RUTLAND WALLIS, MICHAEL	
ART UNIT	PAPER NUMBER
2836	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/20/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

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Office Action Summary	Application No.	Applicant(s)	
	10/643,159	BASIR ET AL.	
	Examiner	Art Unit	
	Michael Rutland-Wallis	2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 February 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4,6-12,21,22,24-33* is/are pending in the application.

4a) Of the above claim(s) *28-32* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,6-12,21,22,24-27 and 33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Newly submitted claims 28-32 directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: This application contains claims directed to the following patentably distinct species: capacitance switching device for the control and activation of a vehicle horn and a capacitance switching device for the control and activation of a vehicle dome light. The species are independent or distinct because the inventions as claimed are either not capable of use together and have a materially different design, mode of operation and function, or effect; and the inventions as claimed are not obvious variants. See MPEP § 806.05(j). I Furthermore, the inventions as claimed do not encompass overlapping subject matter and there is nothing of record to show them to be obvious variants.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, 1, 2, 6-11 are generic.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Since applicant has received an action on the merits for the originally presented invention (the horn switch), this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 28-32 withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Response to Arguments

Applicant's arguments filed 02/21/2007 with respect to claims 1, 2, 3 and 6-11 have been fully considered but they are not persuasive.

With respect to claim 1 Applicant alleges, "the capacitance circuit is not activated based upon in the presence of the driver's hand - - otherwise, the airbag would activate whenever the user tried to honk the horn." The device disclosed in Desmarais is a driver/monitor circuit (60) which is configured with a variable capacitor to detect the proximity of the human body, and in turn output a switch signal based on the "balanced" and "unbalanced" state of the bridge circuit. Applicant states in Desmarais the capacitance circuit is not activated upon the presence of the driver's hand. In response Desmarais outputs a signal from an integrator circuit through a diode switch and voltage follower wherein the output voltage signal is indicative the capacitance of the variable capacitor. Even if one were to concede this is not an activation of the capacitance circuit in Desmarais, it should be noted that the features upon which applicant relies (i.e., activating a capacitance circuit) are not recited in the rejected claims. Although the

claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Applicant's arguments with respect to Applicant remaining pending claims have been considered but are moot in view of the new grounds of rejection.

Claim Objections

Claims 21-22 are objected to because of the following informalities: claims 21 and 22 recite steps of enabling and disabling of a device, based on Applicant's newly amended claim 12 it appears the limitation "a device" should be changed to "a vehicle horn".

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2 and 6-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Schulz (U.S. Pat. No. 5,880,538)

With respect to claims 1 Schulz teaches a user-activated switch (capacitive proximity switch) comprising an electrode (item 4) forming part of a capacitor, a user contact area (such as a door handle) adjacent the electrode defining a permittivity of the capacitor; a detection circuit (Fig. 1) measuring a capacitance of the capacitor and activating a switch based upon the measured capacitance (column 2 lines 1-12 the rate of change in the capacitance which is caused by the hands altering of the electric field by changing the permittivity approximate the sensor is monitored to determine if it is within a threshold indicative of a user's hand), the detection circuit including a bridge circuit including the electrode, the bridge circuit (formed by inputs to the differential amplifier) being balanced (no response at U_A output terminal see Fig. 2E) when no user hand is detected near the electrode, the bridge circuit becoming unbalanced (high voltage at U_A output terminal see Fig. 2E) based upon the presence of a user hand near the electrode; and a differential amplifier (components making up the differential amplifier described for example in see col. 3 line 57 – col. 4 line 11) determining when the bridge circuit is unbalanced and activating the switch based upon whether the bridge circuit is balanced.

With respect to claim 2 Schulz teaches the electrode may be within the vehicle (i.e. a handle in a vehicle)

With respect to claim 6 Schulz teaches the use of an oscillator (item 8) used to excite the bridge circuit.

With respect to claim 7 Schulz teaches in column 2 lines 1-12 the rate of change in the capacitance which is caused by the hands altering of the electric field by changing

the permittivity approximate the sensor is monitored to determine if it is within a threshold indicative of a user's hand.

With respect to claim 8 Schulz teaches the electrode is mounted adjacent a user manual contact area.

With respect to claim 9 Schulz teaches the electrode is mounted adjacent a user hand grip area (door handle).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Alternatively Claims 1, 2, 3 and 6-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Desmarais (U.S. Pat. No. 5,961,144)

With respect to claim 1 Desmarais teaches a user-activated switch comprising: an electrode (item 84 or 86) forming part of a capacitor a capacitor (item 94), a user contact area (area around sensed electric field item 90) adjacent the electrode defining a permittivity (column 7 lines 32-42) of the capacitor, a detection circuit (Fig. 6 item 60) measuring a capacitance of the capacitor (item 94) and activating a switch (signal sent to controller to activate and control vehicle systems) based upon the measured capacitance the detection circuit including a bridge circuit (item 100 Wheatstone bridge).

Those skilled in the art will recognize Wheatstone bridges and variations of such bridges are commonly used to measure electrical characteristics such as: resistance and impedance or to compare capacitance values. Desmarais uses a variation of a Wheatstone bridge in figure 6 to compare the value of capacitance in each branch of the bridge circuit described in column 8 lines 3-13 using a differential measuring circuit item 120 which comprises amplifiers items 122, 126 and 124. Desmarais does not use the terminology "balanced" and "unbalanced" when referring to the comparison performed by the measuring circuit item 120. The bridge circuitry of Desmarais is balanced when the user is not approximate the sensed field item 90 and becomes unbalanced and outputs a voltage signal indicative of the change in the capacitance caused by the change in permittivity when a user or user's hand is proximate the sensed field.

With respect to claim 2 Desmarais teaches the electrode is in a vehicle (item 10).

With respect to claim 3 Desmarais teaches the electrode is on a vehicle steering wheel (item 16).

With respect to claim 6 Desmarais teaches including an oscillator (item 108) exciting the bridge circuit.

With respect to claim 7 Desmarais teaches the switch is activated based upon a rate of change of the capacitance.

With respect to claim 8 Desmarais teaches the electrode is mounted adjacent a user manual contact area.

With respect to claim 9 Desmarais teaches the electrode is mounted adjacent a user hand grip area.

With respect to claim 10 Desmarais teaches the electrode is mounted adjacent a user hand contact area adjacent a user hand contact surface of a power device, the switch deactivating (as the bridge becomes "balanced" the output voltage of the detection circuit goes to zero) the power device when no user hand is detected near the electrode.

With respect to claim 11 Desmarais teaches the user hand contact surface is adjacent a user handgrip area.

Claims 3, 4, 10-12, 21-28 and 33 are rejected under 35 U.S.C. 102(b) as being anticipated by Schulz (U.S. Pat. No. 5,880,538) in view of Neuman et al. (U.S. Pat. No. 5,942,815)

With respect to claim 3 and 4 Schulz teaches user activated switch as described above however fails to teach the positioning on a steering wheel or use of activating a vehicle horn the output of the switching device. Neumann teaches a vehicle horn system (Fig. 6) positioned in a known position on a steering wheel. It would have been obvious to one of ordinary skill in the art at the time of the invention to connect the proximity capacitance switch of Schulz to activate the vehicle horn when a hand is moved toward or approaches the activation area to provide an audible signal for safety which may be quickly activated with little or no mechanical wear to the horn switch.

With respect to claim 10 Schulz teaches the electrode (4) is mounted adjacent a user hand contact area (handle) adjacent a user hand contact surface of a power device

(locking mechanism), the switch deactivating the power device when no user hand is detected near the electrode (see outputs shown in Fig. 2E).

With respect to claim 11 Schulz teaches the user hand contact surface is adjacent a user handgrip area.

With respect to claims 12 Schulz teaches a method for determining a presence (Fig. 1) of a user hand including the steps of: a) measuring a rate of change (column 2 lines 1-12 the rate of change in the capacitance which is caused by the hands altering of the electric field by changing the permittivity approximate the sensor is monitored to determine if it is within a threshold indicative of a user's hand) in permittivity of an area adjacent an electrode caused by the proximity of the user hand; and b) activating a switch (lock/unlock switch for example) based upon the rate of change measure in said step a). Schulz teaches the capacitive sensor switch may be provided on an object, Schulz provides several examples of uses for the capacitive proximity switch and further points out one skilled in the art should appreciate the system not be limited to the described embodiments (col. 1 lines 45-50 also lines 30-35). Shultz however fails to teach the activation of a vehicle horn as a connected device. Neuman teaches a vehicle horn that is activated based on a switch signal (Fig. 1). It would have been obvious to one of ordinary skill in the art at the time of the invention to connect the proximity capacitance switch of Schulz to activate the vehicle horn when a hand is moved toward or approaches the activation area to provide an audible signal for safety which may be quickly activated with little or no mechanical wear to the horn switch.

With respect to claim 21 Schulz teaches the steps of) enabling a device (vehicle accessory) based upon the change in capacitance indicating that the hand is present; and d) disabling (lock and unlock or on/off control of at least the wiper controls) the device based upon the change in capacitance indicating that the hand is present. Neuman teaches the horn system is activated only when the capacitance signal from the flexible capacitor is flexed. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Schulz to disable the horn device when the hand is not present so the horn does not continuously sound erroneously.

With respect to claim 22 Schulz teaches the capacitance adjacent the electrode is adjacent a user manual contact area (door lock grip or windshield wiper activation contact area), such that the switch is activated in said step b) based upon the proximity of the user hand to the user manual contact area.

With respect to claim 24 Schulz teaches an electrode (item 4) mounted on a vehicle (not shown), the electrode forming part of a capacitor, a capacitance of the capacitor changing based upon a presence or absence of a user hand adjacent the electrode; and a detection circuit (Fig. 1) measuring the capacitance of the capacitor and activating the horn based upon the measured capacitance. Schulz does not teach the system is used to control a vehicle horn mounted on a steering wheel. Neuman teaches a vehicle horn switch (Fig. 6) comprising an electrode (metal plate 502 or 504) on a vehicle steering wheel (item 602), the electrode of forming part of a capacitor (i.e. one of the two plates separated by a dielectric), a capacitance of the capacitor changing based upon a presence or absence (presence is detected when a users flexes the

capacitor) of a users hand adjacent the electrode; and a detection circuit (item 110) measuring frequency changes output from the flexible capacitor circuit and activating the horn based upon the detected and measured changes. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the detection circuit of the Schulz on the horn activation circuitry disclosed in Neuman in order to increase the life of the horn switch by eliminating mechanical wear.

With respect to claim 25 Schulz teaches a bridge (formed by inputs to the differential amplifier) formed by circuit including the electrode (4), the bridge circuit being balanced (no response at U_A output terminal see Fig. 2E) when no user hand is detected near the electrode, the bridge circuit becoming unbalanced (high voltage at U_A output terminal see Fig. 2E) based upon the presence of the user hand near the electrode; and a differential amplifier (components making up the differential amplifier described for example in see col. 3 line 57 – col. 4 line 11) determining when the bridge circuit is unbalanced and activating the vehicle device switch based upon whether the bridge circuit is balanced.

With respect to claim 26 Schulz teaches the capacitor is part of an oscillator (item 8) oscillating at a first frequency (outside the responsive frequencies set by component selection described in col. 3 lines 13-40) when no hand is present adjacent the electrode and at a second frequency (frequency within the upper and lower cutoffs) different from the first frequency when the hand is adjacent the electrode, the detection circuit activating the horn switch based upon the frequency

With respect to claim 27 Schulz teaches the capacitance of the capacitor is changed by a change in permittivity of a medium in the capacitor, the permittivity being changed by the presence or absence of the hand adjacent the electrode.

With respect to claim 33 Schulz teaches the proximity of the user hand alters a frequency (see col. 4 lines 13-40 Schulz describes the setting of lower and upper frequency cutoffs and where the switch is responsive) of an oscillator (item 8), and wherein said step b) further includes the step of activating the switch based upon a rate of change of the capacitance caused by the proximity of the user hand.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Rutland-Wallis whose telephone number is 571-272-5921. The examiner can normally be reached on Monday-Thursday 7:30AM-6:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on 571-272-2058. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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